

AWS-Powered Intelligent Document Analysis Solution Reduces Processing Time by Over 60%

Overview

The client is one of the largest public pension funds in the U.S., managing benefits for millions of California's educators. They frequently processes "blanket position requests" for staffing needs, requiring careful assessment based on factors such as budget, vacancies, and request-specific details. The client sought a streamlined, automated solution to handle these assessments efficiently, minimize manual effort, and reduce processing time.

Challenges

The client's analysts manually reviewed a wide array of documents, including spreadsheets, emails, and text files, to consolidate insights necessary for evaluating blanket position requests. This process was time-consuming and prone to inconsistencies due to the diverse formats and high volume of documents.



Intelligent Document Analysis

R Systems developed a comprehensive document summarization solution using AWS Bedrock's Amazon Titan Text G1-Premier model, along with other AWS services and open-source tools.

Key Highlights

Industry: Government Administration

Geography: USA

Service offering: AWS Services

Tech stack: EC2, S3, AWS Bedrock, Langchain, Python,

Openpyxl

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Document Ingestion:

 Analysts uploaded documents in zip format to an Amazon S3 bucket for centralized storage and access. 02

Text Extraction:

 Using open-source libraries, text was extracted from structured (spreadsheets) and unstructured (emails, text documents) files, preparing all content for summarization. 03

Document summarization:

 Extracted text was processed through Amazon Titan Text G1-Premier, generating summaries for each document. 04

Delivery:

 The consolidated report was saved to the S3 bucket, generating a secure download link for analysts to access the summarized insights quickly and efficiently.



Challenges and Resolutions

Our enterprise solution delivered secure document processing and intelligent summarization capabilities, leveraging advanced AI technology and robust cloud infrastructure. The implementation addressed complex document handling requirements while maintaining strict security protocols and data quality standards.

Handling Varied Document Formats:

R Systems incorporated adaptable open-source libraries, enabling accurate text extraction from structured and unstructured files.

Maintaining Summarization Accuracy:

Amazon Titan Text G1-Premier's output was optimized through iterative testing, ensuring it consistently aligned with the client's specific requirements and delivered accurate summaries.

Data Security:

R Systems implemented secure AWS protocols, including role-based access control and data encryption, safeguarding sensitive information.

Future Enhancements:

The client and R Systems are exploring further enhancements to maximize the solution's potential including a Real-Time Insights Dashboard to provide the client's analysts with live metrics on document insights and summarization performance.



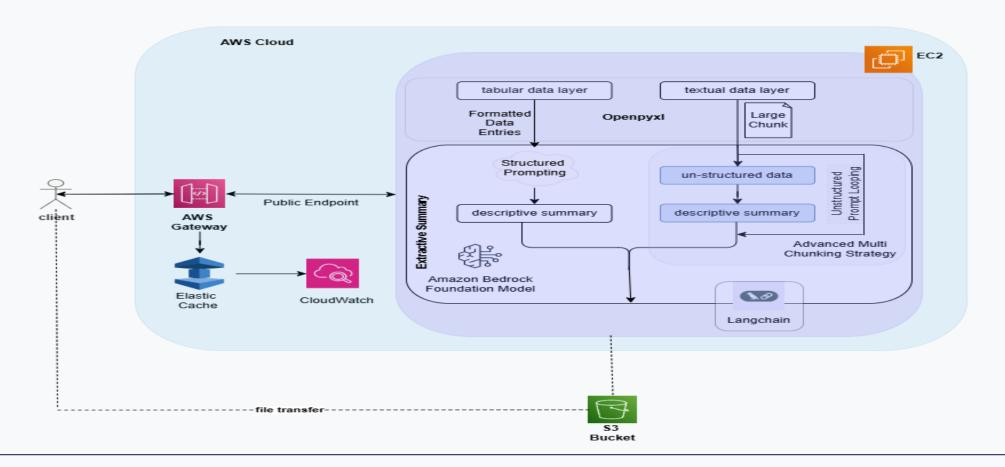
Impact of AWS Bedrock

R Systems' innovative document analysis solution, built on AWS Bedrock, revolutionized how the client handled document-intensive workflows. By combining AWS's robust infrastructure with our technical expertise, we created a powerful solution that transformed manual document processing into an efficient, automated system. Our solution delivered immediate business value through significant time savings, enhanced accuracy, and streamlined operations.

- Time Savings: Reduced document analysis time by over 60%, enabling analysts to address requests more promptly.
- Improved Consistency: Standardized summarization outputs ensured uniform insights, minimizing variability in assessments.
- Cost Efficiency: Lowered labor costs by reducing manual workload, allowing analysts to focus on high-value tasks.
- Enhanced Decision-Making: Provided concise, data-backed insights, empowering the client to make informed staffing and budget decisions swiftly.



Solution Architecture





Unravel Document Intelligence with R Systems' AWS-Powered Solution

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